

AMENDMENTS TO THE DRAWINGS:

The attached sheet of drawings includes corrections to Fig. 6. This sheet replaces the original sheet as filed on July 21, 2003, and the amendments are based on the originally filed application, paragraph numbers [0074]-[0075]. No new matter has been added. As a courtesy, a marked-up copy of old Figure 6 is enclosed for the Examiner's convenience.

Attachments: Replacement Sheet

Annotated Sheet Showing Changes

REMARKS

The Office Action dated March 8, 2007, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-25 and 56-57 are currently pending in the application, of which claims 1-2, 10-11, 17, 20-21, and 24-25 are independent claims. Claims 1-10 and 13-25 have been amended, and claims 56-57 have been added, to more particularly point out and distinctly claim the invention. No new matter has been added. Claims 26-55 have been cancelled without prejudice or disclaimer, and Applicants reserve the right to file divisional application(s) on the subject matter of the cancelled claims. Claims 1-25 and 56-57 are respectfully submitted for consideration.

Claims 20 and 25 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 7,016,317 of Pathak et al. (“Pathak”). Applicants respectfully traverse this rejection.

Claim 20 is directed to a subscriber station including first transmitting means for transmitting capacity request messages of at least one connection. The subscriber station also includes receiving means for receiving capacity grant messages from a base station. The subscriber station further includes allocating means for connection-specifically allocating a capacity granted by the base station. The subscriber station additionally includes second transmitting means for transmitting messages, wherein the messages comprise information based on previous capacity requests of a subscriber station. The

subscriber station also includes third transmitting means for transmitting data according to a capacity allocation made by the subscriber station.

Claim 25 is directed to a subscriber station configured to transmit capacity request messages of at least one connection. The subscriber station is also configured to allocate connection-specifically a capacity granted by a base station. The subscriber station is further configured to transmit messages wherein the messages comprise information on previous capacity requests. The subscriber station is additionally configured to transmit data from a subscriber station according to a capacity allocation made by the subscriber station.

Applicants respectfully submit that Pathak fails to disclose or suggest all of the elements of any of the presently pending claims.

Pathak generally relates to a wireless local loop. More particularly, Pathak relates to a method of managing communications between at least one base station and a plurality of subscriber terminals.

As discussed by Pathak at column 2, line 27, to column 3, line 52, the base station reviews requests to create a radio connection that it received from a subscriber station and information on present radio bandwidth allocation to determine whether to allocate additional bandwidth and/or network resources to the subscriber station that transmitted the request. The base station carries out allocation if it decides to allocate the additional bandwidth and/or network resources and update allocation information.

The subscriber stations, in Pathak, include data and telephony ports and can include a subscriber utilization client (SUC) to assist in the management process. The SUC in each subscriber station communicates with a network utilization manager (NUM) to request network resources from a base station. The NUM considers the requirements, in bandwidth and/or Quality of Service levels, for a desired connection and utilization of the network resources in determining whether to establish the desired connection.

Furthermore, in Pathak, the SUC and NUM can prioritize the establishment of connections on an appropriate basis, including the type of connection, the parties to the connection, the revenue potential of the connection and the port for the connection at the subscriber station.

In short, in Pathak, the base station carries out allocation of resources on the basis of capacity requests transmitted by the subscriber station.

Claim 20 recites, in part, “A subscriber station, comprising ... allocating means for connection-specifically allocating a capacity granted by the base station.” Pathak fails to disclose or suggest at least this feature of claim 20.

The Office Action took the position that Pathak discloses this feature of claim 20 at column 2, line 57, to column 3, line 52. Applicants respectfully disagree.

As noted above, the cited portion of Pathak indicates that capacity allocation would take place in the base station, but says nothing about capacity allocation taking place in the subscriber station. Nor does Pathak say anything about the subscriber station deciding on how to allocate resources to different connections, given that resources have

been allocated to the subscriber by the base station. Accordingly, Pathak does not and cannot disclose or suggest a subscriber station that includes “allocating means for connection-specifically allocating a capacity granted by the base station,” as recited in claim 20. Thus, withdrawal of the rejection of claim 20 is respectfully requested.

Independent claim 25 has its own scope, but similarly recites “A subscriber station, configured to … allocate connection-specifically a capacity granted by a base station.” As noted above, Pathak is silent as to a second phase in which (after the base station has allocated resources to the subscriber) the subscriber station allocates resources by connection to various connections. Accordingly, it is respectfully submitted that Pathak fails to disclose or suggest, “A subscriber station, configured to … allocate connection-specifically a capacity granted by a base station,” as recited in claim 25, and it is respectfully requested that the rejection of claim 25 be withdrawn.

Claims 1-19 and 21-24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pathak in view of IEEE Std. 802.16-2001 (“IEEE”). The Office Action took the position that Pathak discloses most of the features of the independent claims, and cited IEEE to remedy certain deficiencies of Pathak with respect to the claim recitations. Applicants respectfully traverse the rejection.

Claim 1, upon which claims 6-9 depend, is directed to a data transmission method including first transmitting from a subscriber station at least one capacity request message. The method also includes granting a capacity subscriber station-specifically by a base station. The method further includes second transmitting at least one capacity

grant message from the base station. The method additionally includes connection-specifically allocating the granted capacity by the subscriber station. The method also includes third transmitting from the subscriber station at least one message wherein the at least one message comprises information based on previous capacity requests. The method further includes fourth transmitting data from the subscriber station according to a capacity allocation. The method additionally includes monitoring by the base station of at least one of capacity request messages, capacity grant messages and received transmissions.

Claim 2, upon which claims 3-5 depend, is directed to a data transmission method including first determining communication groups. The method also includes second determining a group priority order. The method further includes first transmitting at least one capacity request message from a subscriber station. The method additionally includes granting a capacity subscriber station-specifically by a base station. The method also includes second transmitting at least one capacity grant message from the base station. The method further includes scheduling connections by the subscriber station based on the communication groups, the group priority order and the granted capacity. The method additionally includes third transmitting from the subscriber station at least one message, wherein the at least one message comprises information based on previous capacity requests. The method also includes fourth transmitting data from the subscriber station, wherein the data is related to a connection scheduling. The method further

includes monitoring by the base station of at least one of capacity request messages, capacity grant messages and received transmissions.

Claim 10, upon which claims 14-16 depend, is directed to a communication system including first transmitting means for transmitting capacity request messages. The communication system also includes granting means for granting a capacity subscriber station-specifically. The communication system further includes second transmitting means for transmitting capacity grant messages. The communication system additionally includes allocating means for connection-specifically allocating the granted capacity. The communication system also includes third transmitting means for transmitting messages, wherein the messages comprise information based on previous capacity requests. The communication system further includes fourth transmitting means for transmitting data according to the capacity allocation made by a subscriber station. The communication system additionally includes monitoring means for monitoring at least one of the request messages, capacity grant messages and received transmissions.

Claim 11, upon which claims 12-13 depend, is directed to a communication system including grouping means for grouping connections into predetermined communication groups. The system also includes first transmitting means for transmitting capacity request messages. The system further includes granting means for granting a capacity subscriber station-specifically. The system additionally includes second transmitting means for transmitting capacity grant messages. The system also includes scheduling means for scheduling connections based on the communication

groups, a predetermined group priority order and the granted capacity. The system further includes third transmitting means for transmitting messages, wherein the messages comprise information based on previous capacity requests. The system additionally includes fourth transmitting means for transmitting data according to a connection scheduling. The system also includes monitoring means for monitoring at least one of the request messages, the capacity grant messages and received transmissions.

Claim 17, upon which claim 19 depends, is directed to a base station including granting means for granting a transmission capacity subscriber station-specifically. The base station also includes transmitting means for transmitting capacity grant messages to at least one subscriber station. The base station further includes monitoring means for monitoring capacity request messages received from the at least one subscriber station, capacity grant messages sent by a base station and data transmissions received from the at least one subscriber stations.

Claim 21, upon which claims 22-23 depend, is directed to a subscriber station including a first transmitting unit configured to transmit capacity request messages of at least one connection. The subscriber station also includes a grouping unit configured to group connections into predetermined communication groups. The subscriber station further includes a scheduling unit configured to schedule the connections based on the predetermined communication groups, a predetermined group priority order and a capacity granted by a base station. The subscriber station additionally includes a second

transmitting unit configured to transmit messages wherein the messages comprise information based on previous capacity requests. The subscriber station also includes a third transmitting unit configured to transmit data according to a connection scheduling.

Claim 24, upon which claim 18 depends, is directed to a base station configured to receive capacity request messages from at least one subscriber station. The base station is also configured to grant a transmission capacity subscriber station-specifically. The base station is further configured to transmit capacity grant messages to the at least one subscriber station. The base station is additionally configured to monitor request messages received from the at least one subscriber stations, capacity grant messages sent by a base station and data transmissions received from the at least one subscriber station.

Applicants respectfully submit that the combination of Pathak and IEEE fails to disclose or suggest all of the elements of any of the presently pending claims.

Pathak is discussed above. For the reasons explained above, it should be clear that Pathak fails to disclose or suggest “granting a capacity subscriber station-specifically by a base station,” in combination with “connection-specifically allocating the granted capacity by the subscriber station.” As noted above, Pathak only discussing the base station allocating resources based on capacity requests by the subscriber station.

The Office Action cited the same passage here as with regard to claim 20 above, and the Office Action’s assertion is incorrect for the reasons explained above. Accordingly, Pathak fails to disclose or suggest at least this combination of features of claim 1.

IEEE does not remedy the above-identified deficiencies of Pathak and, thus, the combination of Pathak and IEEE fails to disclose or suggest all of the elements of any of the presently pending claims.

IEEE generally relates to the air interface for fixed broadband wireless access systems. Accordingly, it is unsurprising that IEEE fails to remedy the above-identified deficiencies of Pathak. Thus, the combination of Pathak and IEEE fails to disclose or suggest all of the features of claim 1, and it is respectfully requested that the rejection of claim 1 be withdrawn.

The Office Action specifically cited Section 6.2.6.1 of IEEE. Section 6.2.6.1 defines that subscriber stations (SS) indicate to the base station (BS) that they need uplink bandwidth allocation. The Bandwidth Request Message may be transmitted during any of the following intervals: Request Information Element (IE) or Any Data Grant Burst Type IE. The Request IE or Any Data Grant Burst Type IE are time intervals, not a communication group order as the Office Action appears to have alleged.

The Office Action also specifically cited Section 6.2.5.4 of IEEE. Section 6.2.5.4 defines a best effort service to provide efficient service to best effort traffic. In order for this service to work correctly, the Request/Transmission Policy setting should be such that the SS is allowed to use contention request opportunities. The contention request opportunities allow the SS to define in the Request Message the Minimum Reserved Traffic Rate, the Maximum Sustained Traffic Rate, and the Traffic Priority.

Section 6.2.5.4, however, is silent about the SS scheduling connections based on the communication groups, the group priority order, and the granted capacity. This silence is to be expected, because, after all, the base station has not yet granted capacity at the moment when the SS transmits the Request Message.

In addition to features similar to those discussed above with respect to claim 1, claim 2 also recites, in part, “scheduling connections by the subscriber station based on the communication groups, the group priority order and the granted capacity.” The combination of Pathak and IEEE fails to disclose or suggest at least this feature of claim 2.

The Office Action acknowledged that Pathak fails to disclose this feature of claim 2, and cited IEEE to remedy this deficiency. However, as noted above, the cited portion is silent as to the subscriber station scheduling connections based on the communication groups, the group priority order, and the granted capacity. Accordingly, IEEE does not even remedy the admitted deficiencies of Pathak, and the combination of Pathak and IEEE fails to disclose or suggest at least “scheduling connections by the subscriber station based on the communication groups, the group priority order and the granted capacity,” as recited in claim 2. Accordingly, for at least this reason, it is respectfully requested that the rejection of claim 2 be withdrawn.

Independent claims 10-11, 17, 21, and 24 each have their own scope. However, each of claims 10-11, 17, 21, and 24 recites at least some features similar to those discussed above with respect to claims 1 and/or 2. Thus, it is respectfully submitted, for

the reasons explained above, that the combination of Pathak and IEEE fails to disclose or suggest all of the elements of any of claims 10-11, 17, 21, and 24, and it is respectfully requested that the rejection of claims 10-11, 17, 21, and 24 be withdrawn.

Claims 3-9, 12-16, 18-19, and 22-23 depend respectively from, and further limit, claims 1-2, 10-11, 17, 21, and 24. Accordingly, claims 3-9, 12-16, 18-19, and 22-23 each recite subject matter that is neither disclosed nor suggested in the combination of Pathak and IEEE. Thus, it is respectfully requested that the rejection of claims 3-9, 12-16, 18-19, and 22-23 be withdrawn.

For the reasons set forth above, it is respectfully submitted that each of claims 1-25 and 56-57 recites subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that all of claims 1-25 and 56-57 be allowed, and that this application be passed to issuance.

If, for any reason, the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


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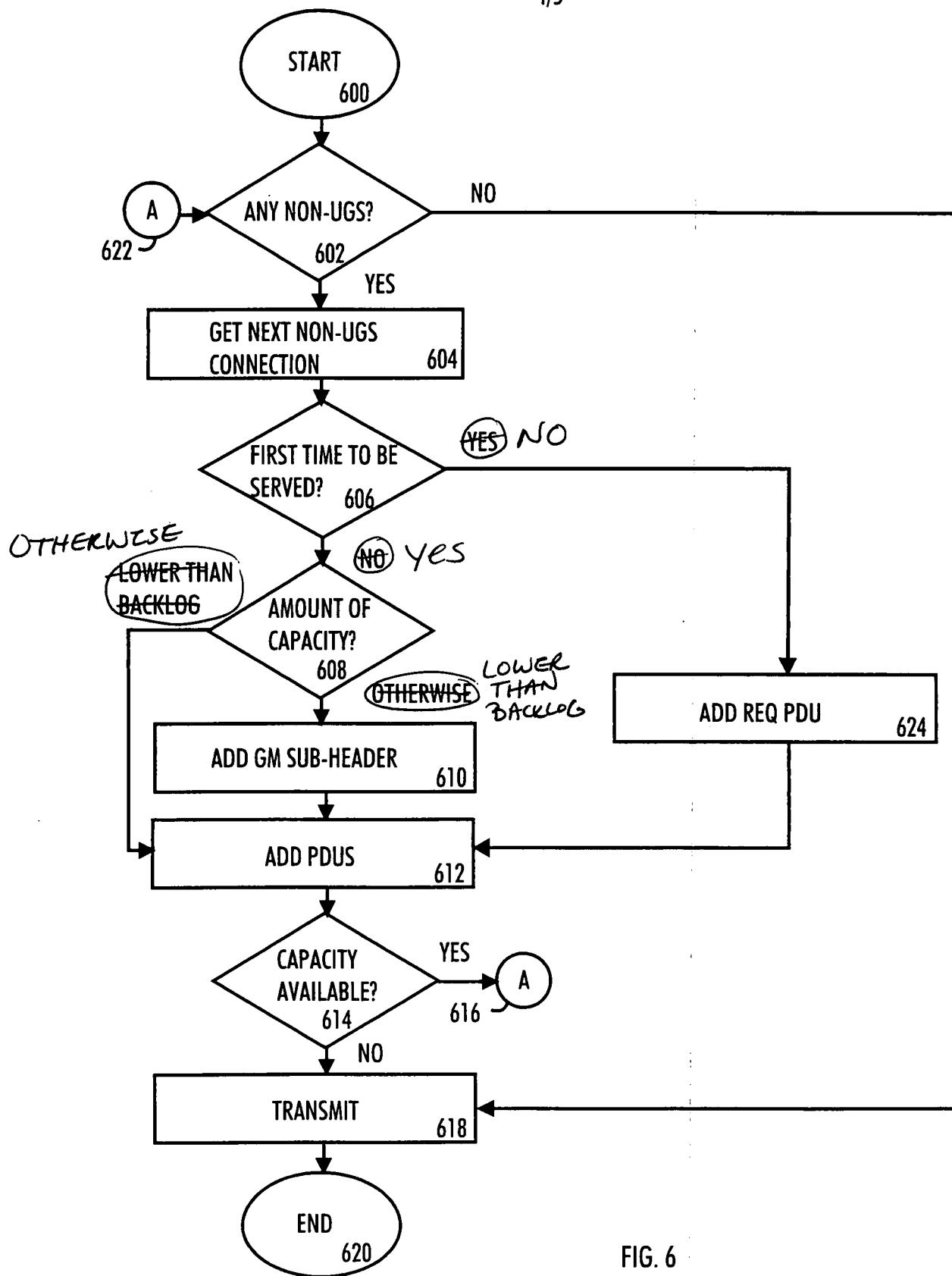


FIG. 6